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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/809,566	03/25/2004	Yuji Okawa	UNIU79.022AUS	7968

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EXAMINER

PHAM, THANHHA S

ART UNIT	PAPER NUMBER
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2813

DATE MAILED: 09/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/809,566	<b>Applicant(s)</b> OKAWA, YUJI	
	<b>Examiner</b> Thanhha Pham	<b>Art Unit</b> 2813	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 2 and 4-18 is/are pending in the application.
- 4a) Of the above claim(s) 2,4,5,7 and 9-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6 and 18 is/are rejected.
- 7) ☒ Claim(s) 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

This Office Action is in response to Applicant's Amendment dated 6/30/2006.

### ***Election/Restrictions***

1. This application contains claims 2, 4-5, 7, 9-17 are drawn to invention and species nonelected in Paper No. dated 01/17/2006. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

### ***Claim Objections***

2. **Claims 6, 8 and 18 are objected to because of informalities. Appropriate corrections are required to clarify scope of claims.**

► With respect to claim 6,

line 2, grammatical error of "the steps of " lacking antecedent basis should be changed to "steps of" to clarify scope of claim.

lines 7-8, "adhering a dicing sheet to the deactivated ground or polish surface of the wafer after", grammatical error, should be changed to "adhering a dicing sheet to the deactivated ground or polish surface of the semiconductor wafer" to clarify scope of claim.

► With respect to claim 8,

line 1, grammatical error of “the steps of ” lacking antecedent basis should be changed to “steps of” to clarify scope of claim.

lines 6-7, “deactivating the ground or polished surface by blowing ozone-containing exhaust gas from cooling a UV lamp on the ground polished surface of the wafer” should be changed to “deactivating the ground or polished surface by blowing ozone-containing exhaust gas from cooling a UV lamp to the ground polished surface of the semiconductor wafer” to clarify more scope of claim.

line 10, “the wafer” lacking antecedent basis should be changed to “the semiconductor wafer” to clarify scope of claim.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**4. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Nishiyama [US 2002/0004288].**

Nishiyama (figs 11's text [0015]-[0016]) discloses the claimed method for manufacturing a semiconductor device comprising steps of:

providing a semiconductor wafer (61, fig 11C) having a ground or polished surface activated in a grinding or polishing step (*the ground or polished surface of the*

*semiconductor wafer 61 is inherently activated by chemical and/physical means of process of grinding or polishing);*

deactivating the ground or polished surface (text [0015]: *cleaning the LSI wafer 61 after grinding and polishing would inherently deactivate the ground or polished surface of the semiconductor wafer 61 -- preventing/stopping the ground or polished surface of the semiconductor wafer from active to contamination*);

adhering a dicing sheet (64, fig 11D, text [0016]) to the deactivated ground or polished surface of the semiconductor wafer; and

dicing the dicing sheet-adhered semiconductor wafer (fig 11E, text [0016]).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nishiyama [US 2002/0004288] in view of Jiang et al [US 6,812,064].**

Nishiyama substantially discloses the claimed method including deactivating the ground or polished surface of the semiconductor wafer – preventing the ground or polished surface of the semiconductor wafer from contamination. Nishiyama does not expressly teach teaching blowing ozone on the ground or polished surface of the semiconductor wafer for the deactivating step.

However, Jiang et al (cols 2-6) teaches blowing ozone on the ground or polished surface of the semiconductor wafer for the deactivating step – preventing the ground or polished surface of the semiconductor from contamination caused by picking unwanted particles in production process step.

Therefore, at the time of invention, it would have been obvious for those skilled in the art to modify process of Nishiyama by blowing ozone on the ground or polished surface of the semiconductor wafer as being claimed, per taught by Jiang, to provide a clean semiconductor wafer by preventing the semiconductor wafer from picking unwanted contaminant for a better manufacturing semiconductor device process.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 6 and 18 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanhha Pham whose telephone number is (571) 272-1696. The examiner can normally be reached on Monday and Thursday 9:00AM - 9:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Whitehead can be reached on (571) 272-1702. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TSP



THANHHA S. PHAM  
PRIMARY EXAMINER